A Fit-for-Purpose GB Energy Governance Framework

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IGov New Thinking For Energy

UNIVERSITY OF EXETER

EPSRC Engineering and Physical Sciences Research Council

Definitions

Innovation -
Not just technology, but new practices, business models, social preferences, that lead to change on the ground

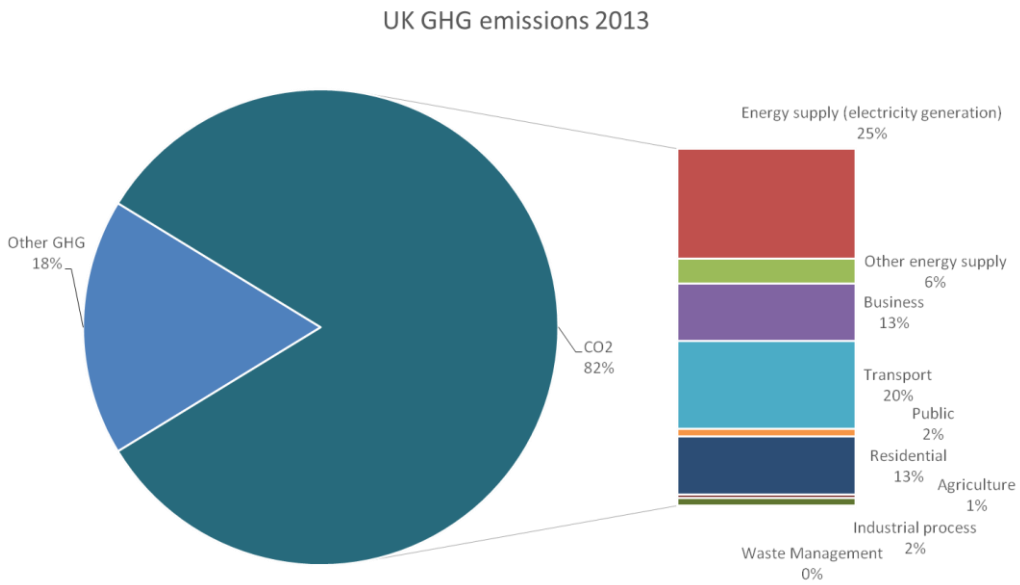
Governance
the policies, institutions, regulation, market & networks rules & incentives and the process/politics behind them (including the way people are involved)

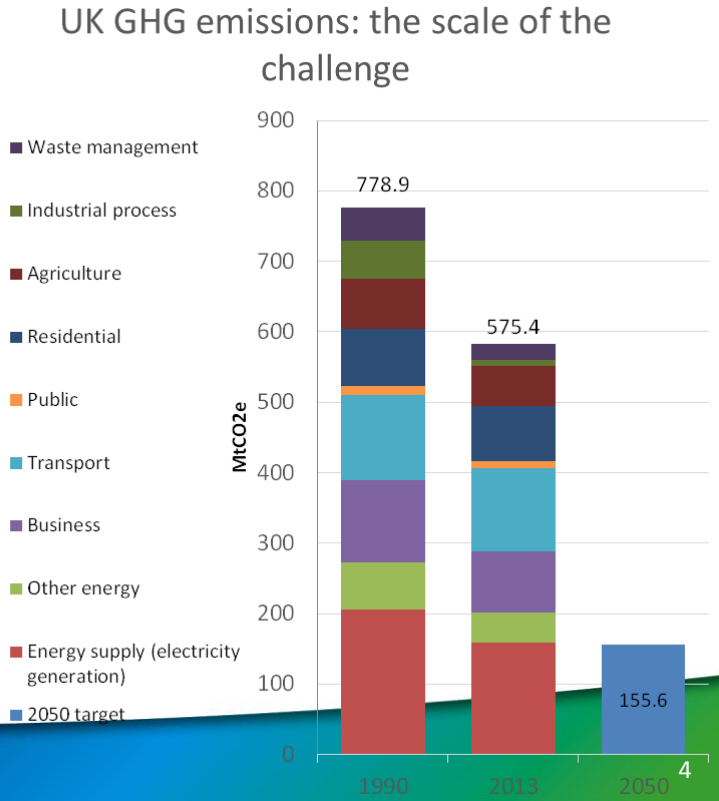
Why is it important to reform the GB's energy governance framework?

- Governance on balance supports 'old' dirty, more expensive system and we need to move it to support the 'new' clean, secure, affordable system
  - Energy main source of CO2, and not on track to meet GHG reduction targets, needs to speed up; and needs more direction to get there on time
  - Energy is made up of electricity, heat and transport – in-roads mainly in 'easy' electricity
  - Multiple new technologies allowing cheaper, more en.eff / flexible operation of energy system – but value remains with old 'dirty' system. Needs nimble, transparent governance system to keep up and avoid lock-in.
  - Mitigation technology pathway has huge distributional impacts for society – a political not a technological / economic issue and needs legitimate and transparent decision-making process
  - Energy is a whole system; a governance framework has to be fit for purpose across all dimensions of that energy system, to ensure integration and avoid silos

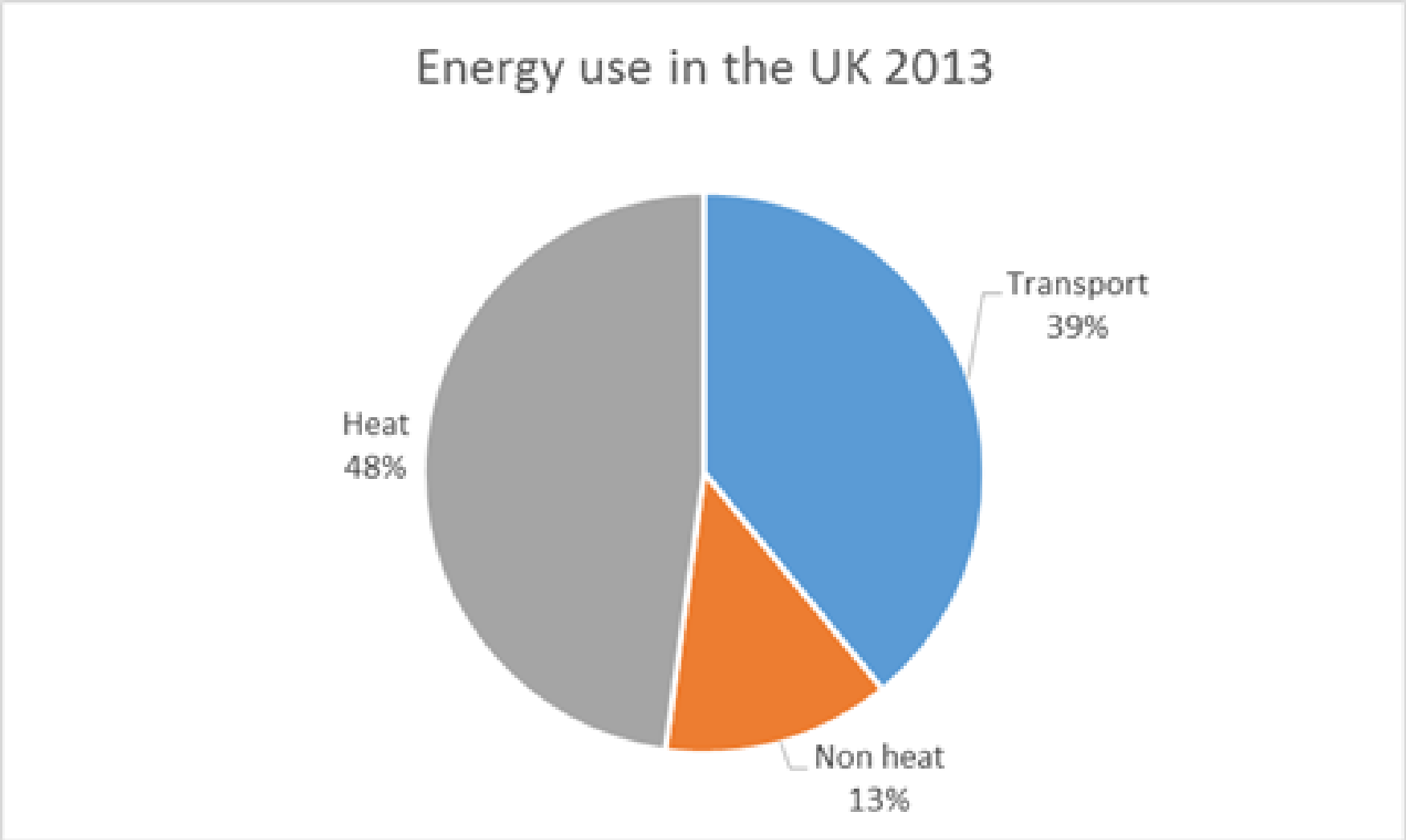
Energy use is biggest source of CO2 in UK (BW slides)

- Not currently on track to meet UK target of 80% GHG reduction from 1990 by 2050 (CCC)
- The rate of GHG reduction has to speed up, needs more direction to get there on time



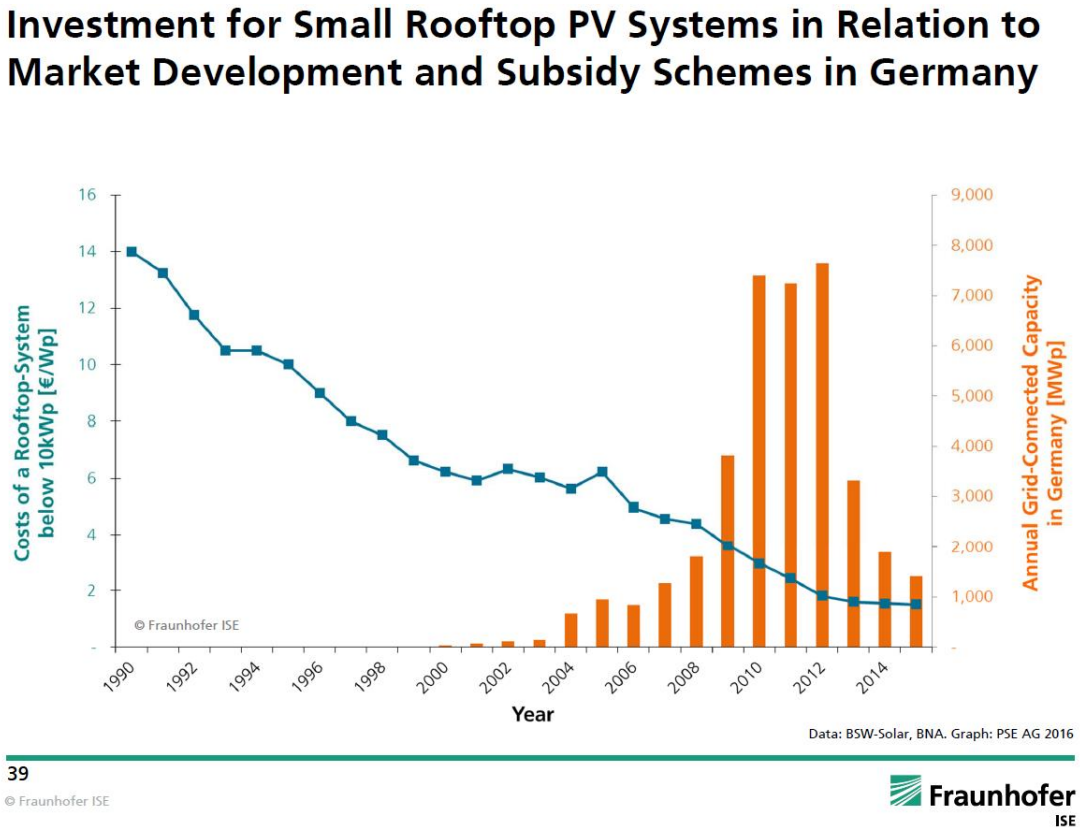


Not just electricity, also heat and transport sectors which need to be decarbonised - so not only not on target but so far only the 'easy' areas have been targeted (Source: Dec 2014 Energy Trends, thanks to BW for slide)



Multiple ‘new’ technologies with falling prices (ie solar, wind, storage, ICT) which enable new, integrated, flexible ways of operating the system (cheaper, secure, env.)

- BUT
- Governance rules and incentives within the system continue to support ‘old’ centralised, supply technologies such as coal, gas and nuclear and ‘old’ ways of operating the energy system
- Energy technologies have long lives so rules and incentives have to keep up with ‘new’ technologies and their values to system so that we avoid lock-in Need a ‘nimble’ regulatory system if we are to capture value for ‘new’



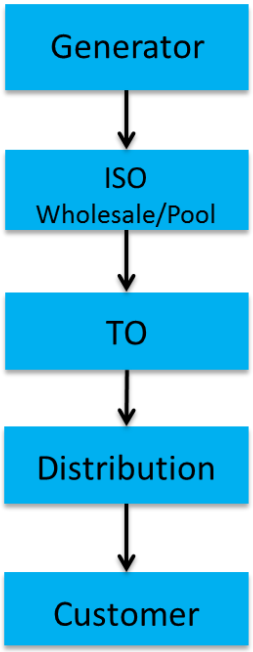
CHOICE of energy system for GHG reduction has major distributional differences & cost for society;

Simplified choice: centralised, large supply (nuclear, large wind, large hydro) versus hybrid central/decentral flexible, integrated, energy efficient (renewables, storage, interconnectors, demand side response, gas)

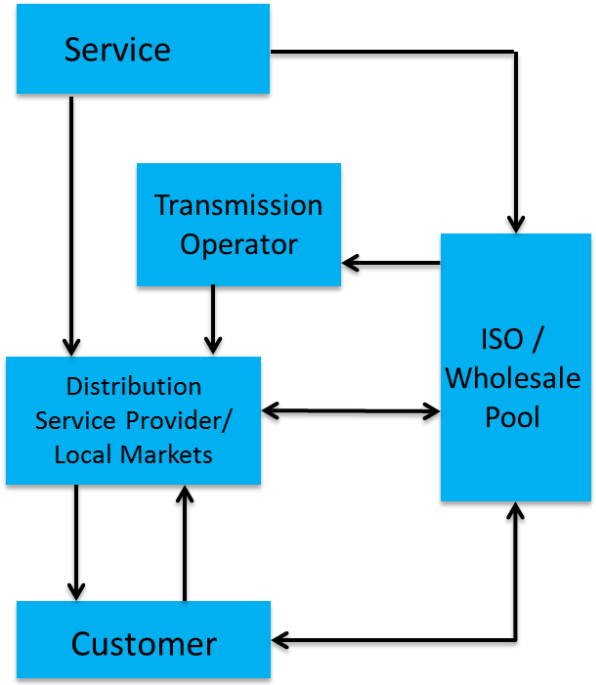
THE 'new' system would be cheaper for customers (+ secure/env.)

NEED a transparent, legitimate decision-making process to deal with 'political' decision and 'losers' of transformation

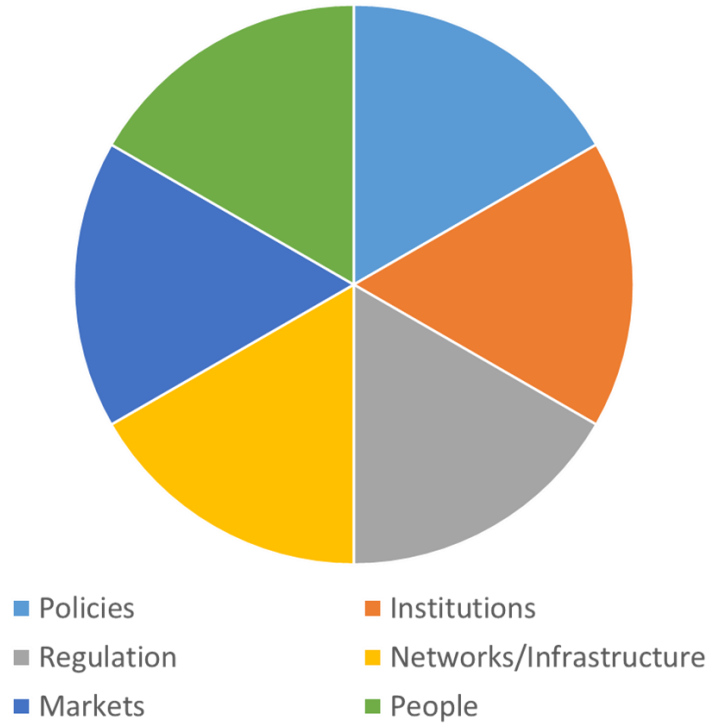
Traditional

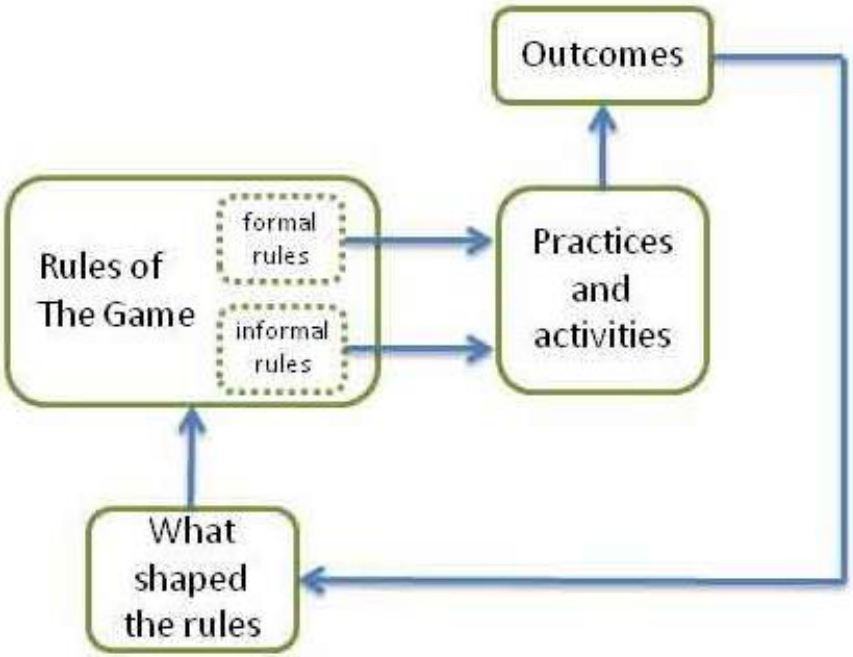


Flexible

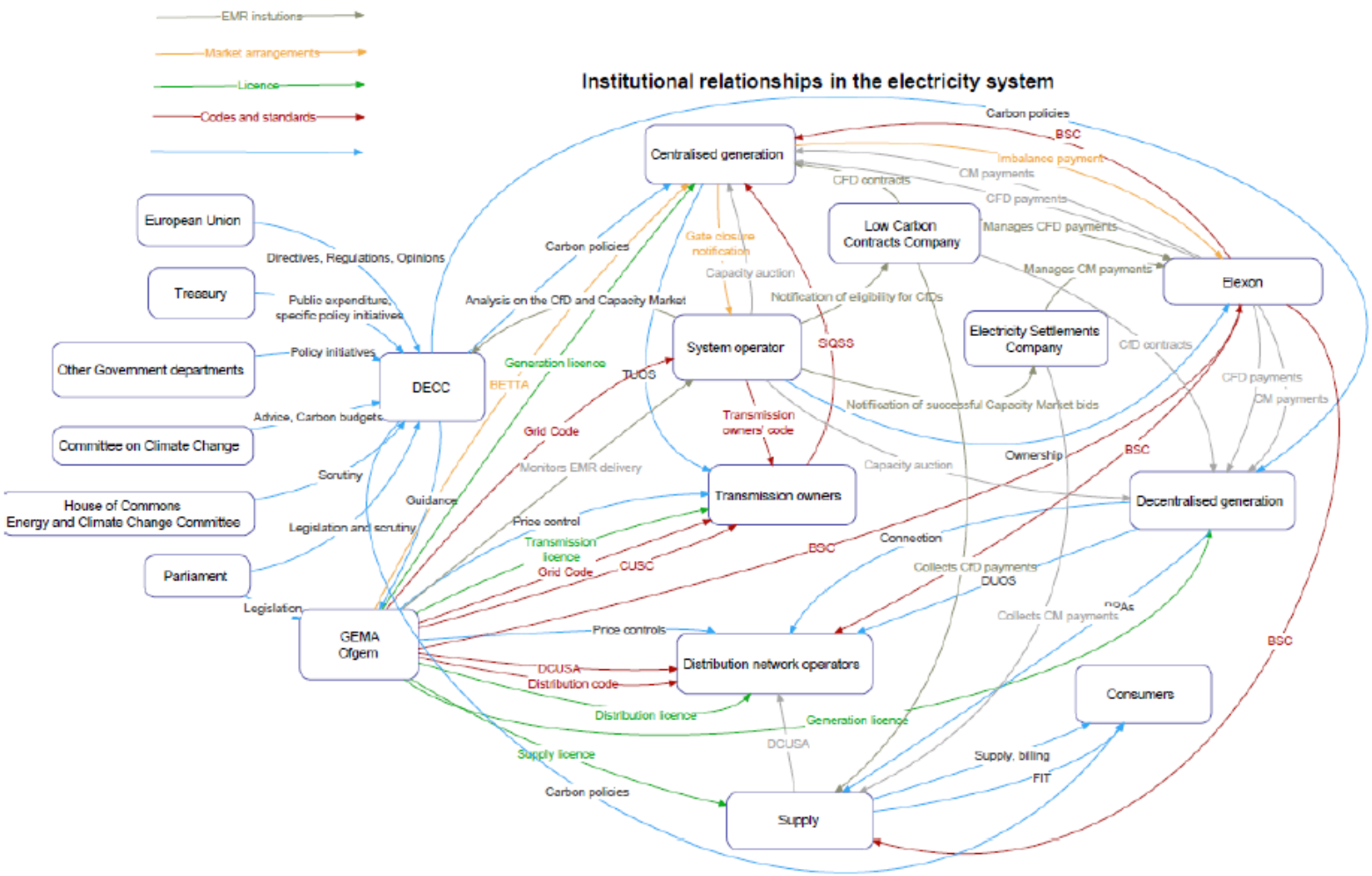


Energy is a whole system so governance framework has to be to designed to integrate all areas / energies to enable best value and costs to society, and each dimension has to be fit-for purpose





Current GB Governance System



Source: Woodman, 2015 https://blogs.exeter.ac.uk/energy/2014/11/12/mapping-the-power-in-the-electricity-system/

Specific GB energy governance problems to solve

Problems to do with transparency & legitimacy

- Lack of transparency in policy making – has ineffective de-politisisation process; does not deal with losers / distributional impacts ; lets 'market' dictate direction not CCC budgets;
- Perceived risk of short term 'political' policy change

Problems to do with current institutions

- Regulation lagging change; not nimble
- Self-regulation leads to inertia
- BEIS policy decision de facto delegated to other bodies which do not have legitimacy and ignores distributional issues
- End users viewed as passive consumers, within sectors
- Uncoordinated decision making

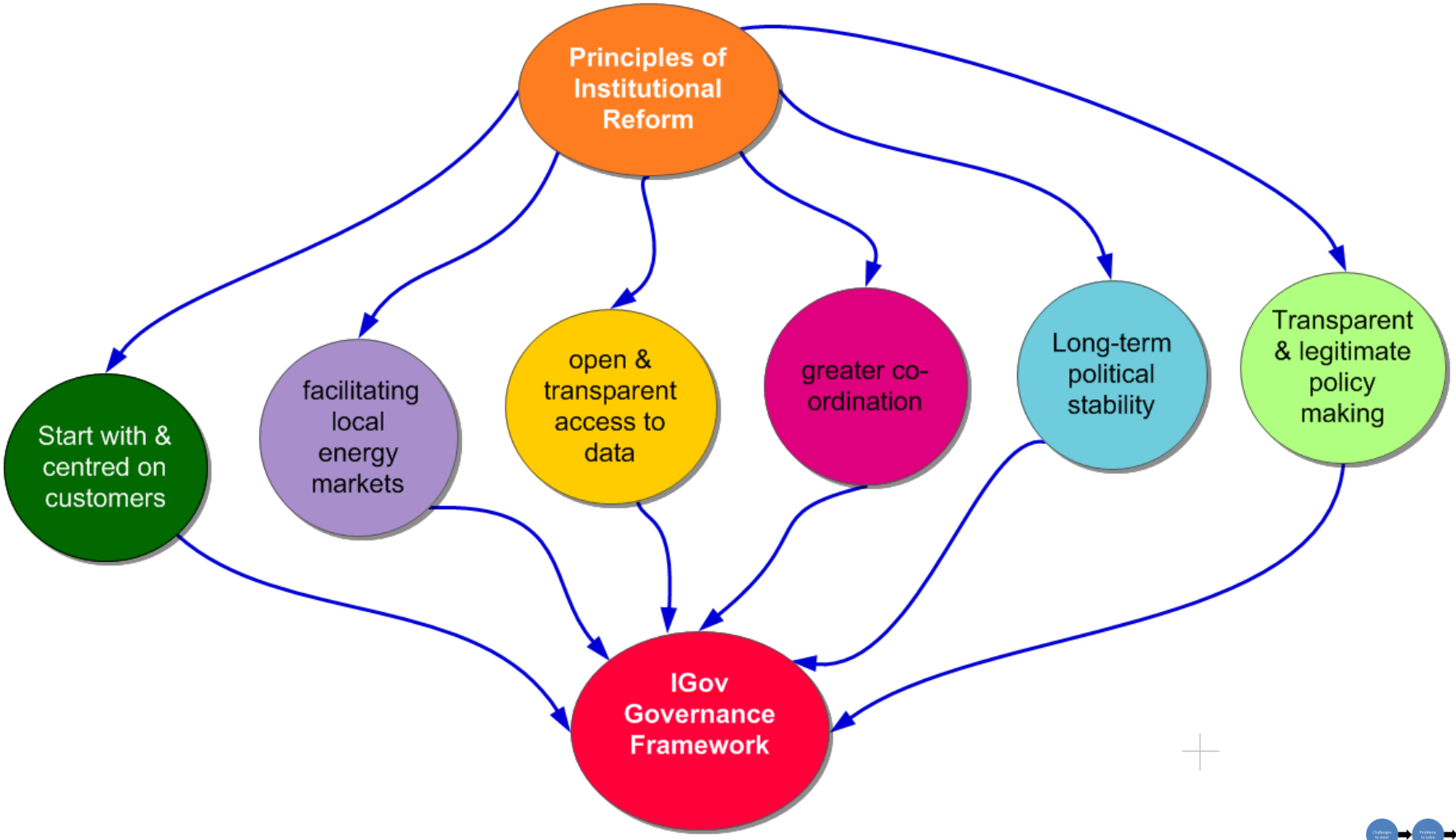
Problems to do with operation

- Poor access to data
- Uncoordinated, non-integrated & directionless system change
- SO focuses on T rather than integrated T & D across vectors
- Value/payments in system reflect conventional system

Lacking

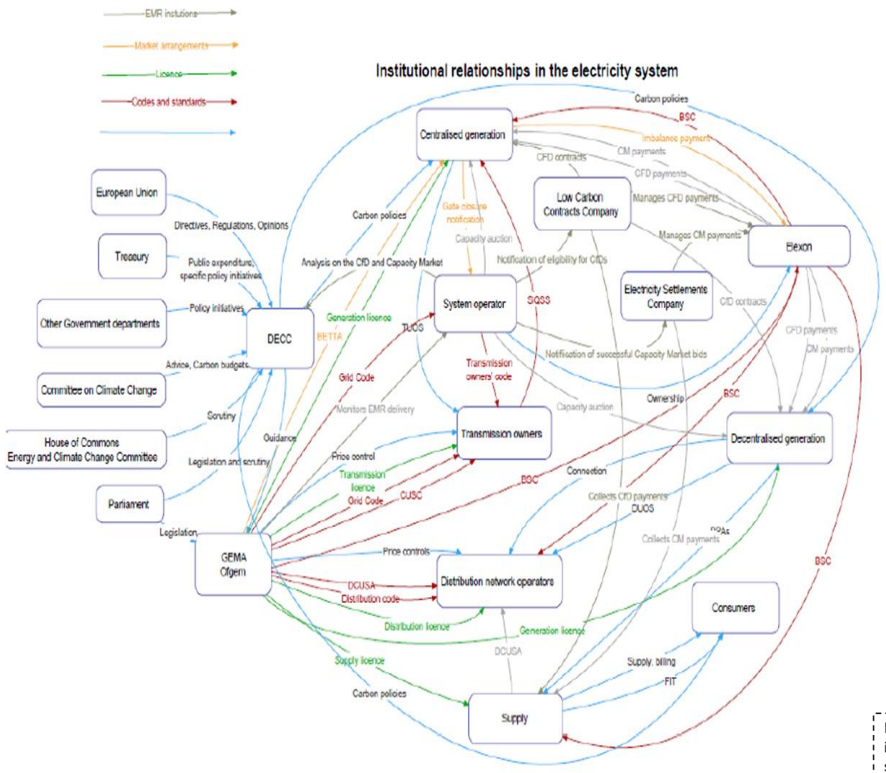
- A way to incorporate CCC budgets across institutions
- A means to coordinate value of DER & local markets
- A place for discussion and consensus building

Principles of Institutional Reform – which also deal with problems



Matching principles to institutional reform within the IGov Framework

Principles of Institutional Reform	Institutional solutions & reform
Energy system centred on customers	DSPs, local energy markets, bottom-up optimisation via DSPs & IISO
Facilitating local energy markets	DSPs
Open and transparent access to data	Data Body, Market Monitor
Greater Coordination	Consensus Building Body, IISO, BEIS taking decisions, Economic Regulator, DSPs
Long-term political stability	Consensus Building Body
Transparent and legitimate policy-making	Greater coherence of decision-making & less delegation from BEIS



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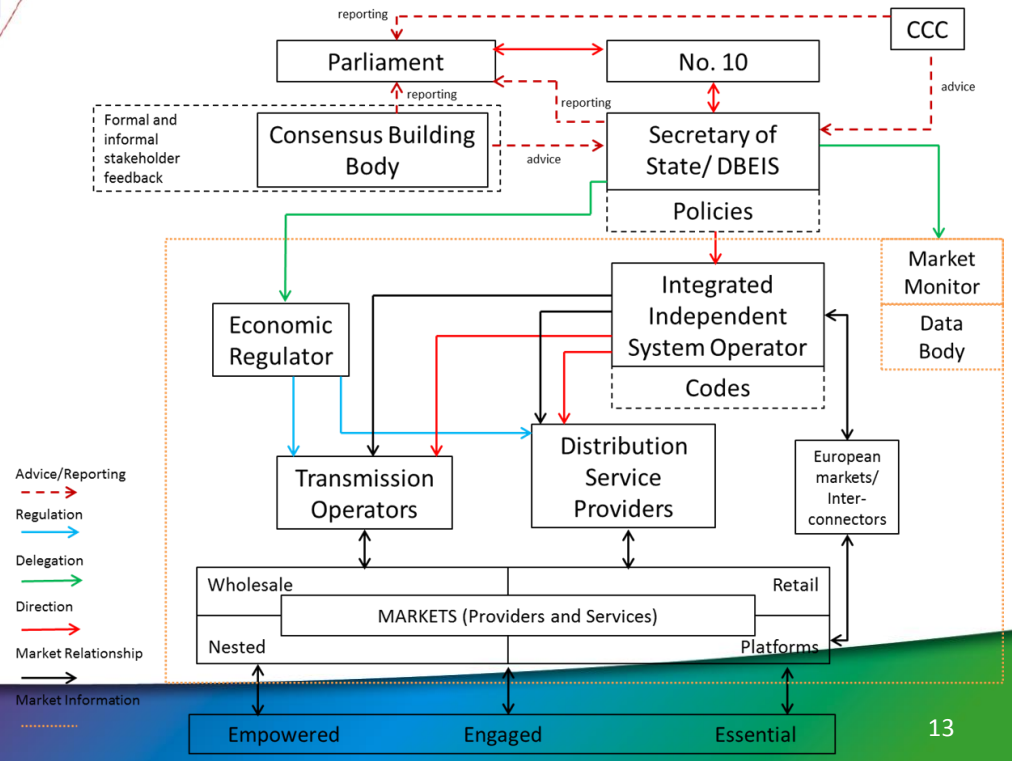
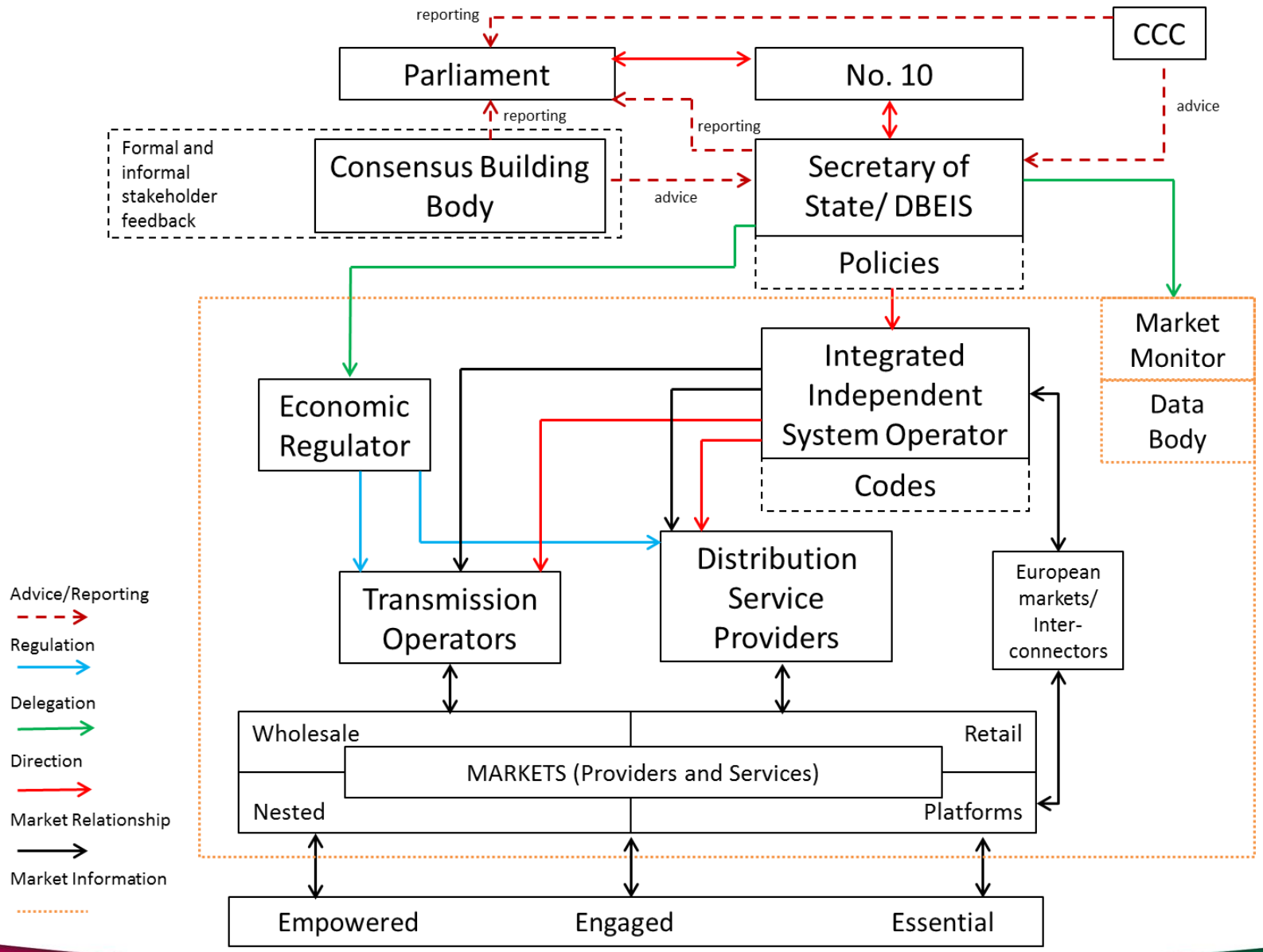
IGov argues we need to move from one governance system on, on left, to the one below



Fit-for-Purpose GB Energy Governance Framework



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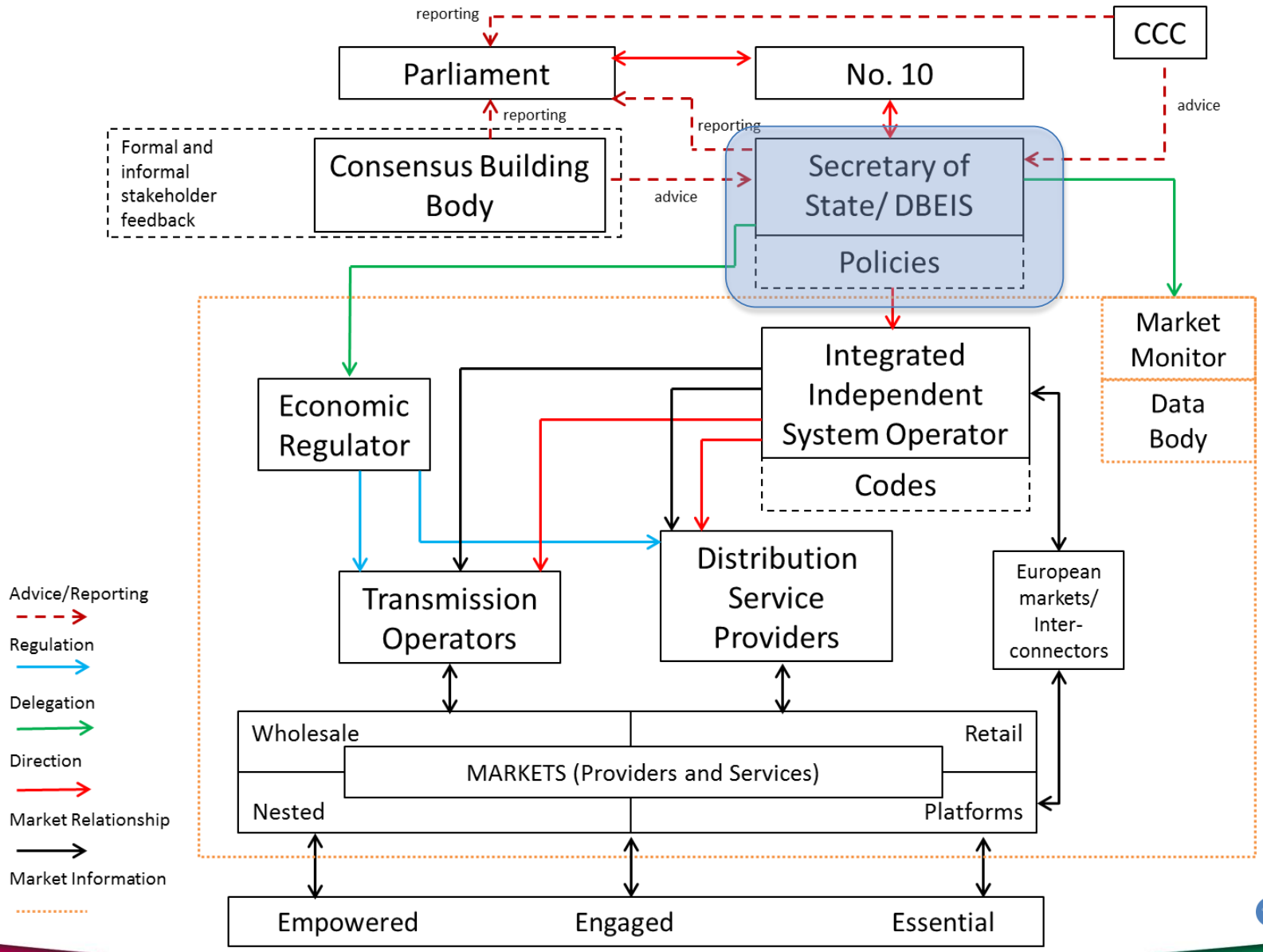

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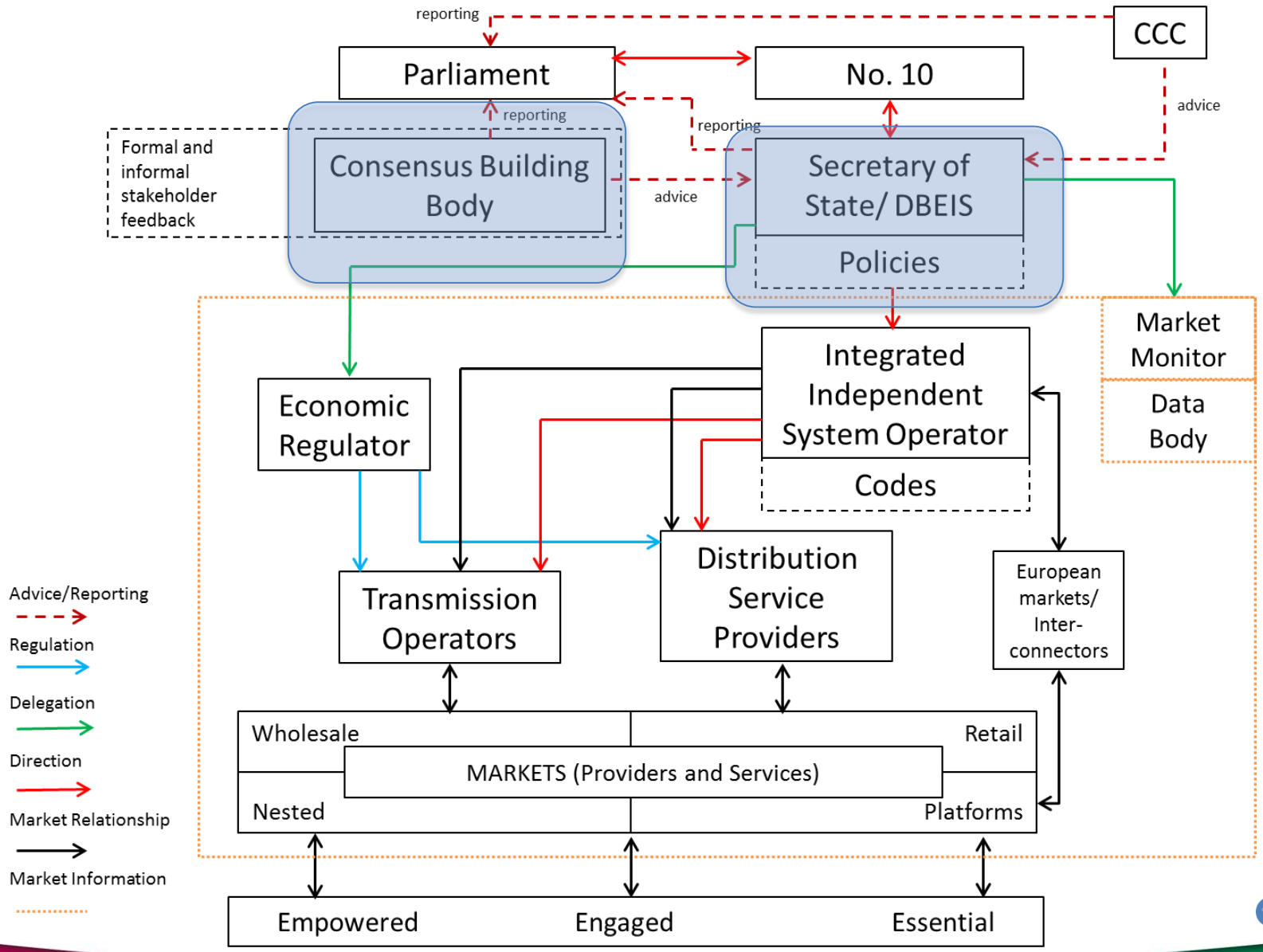

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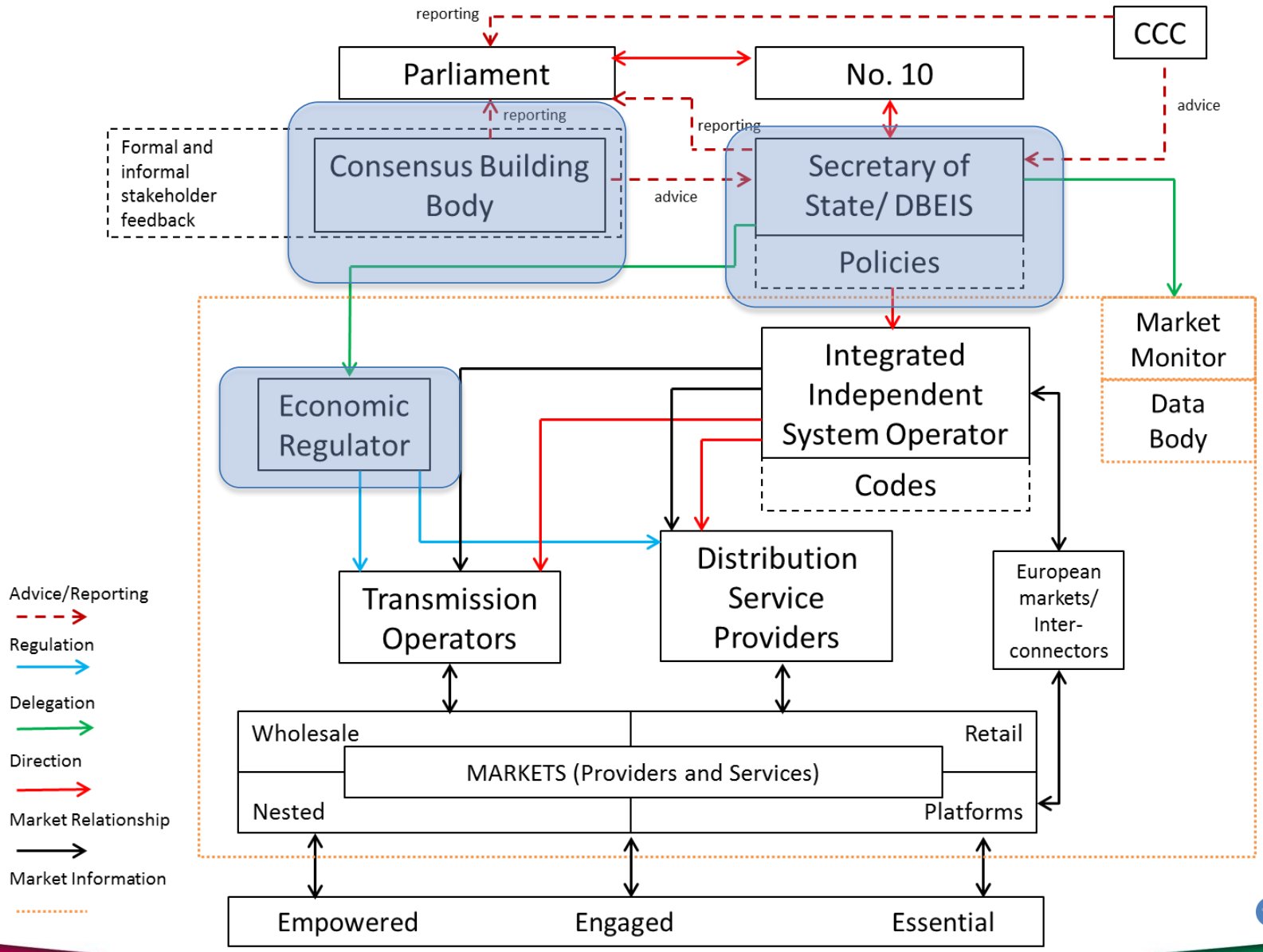

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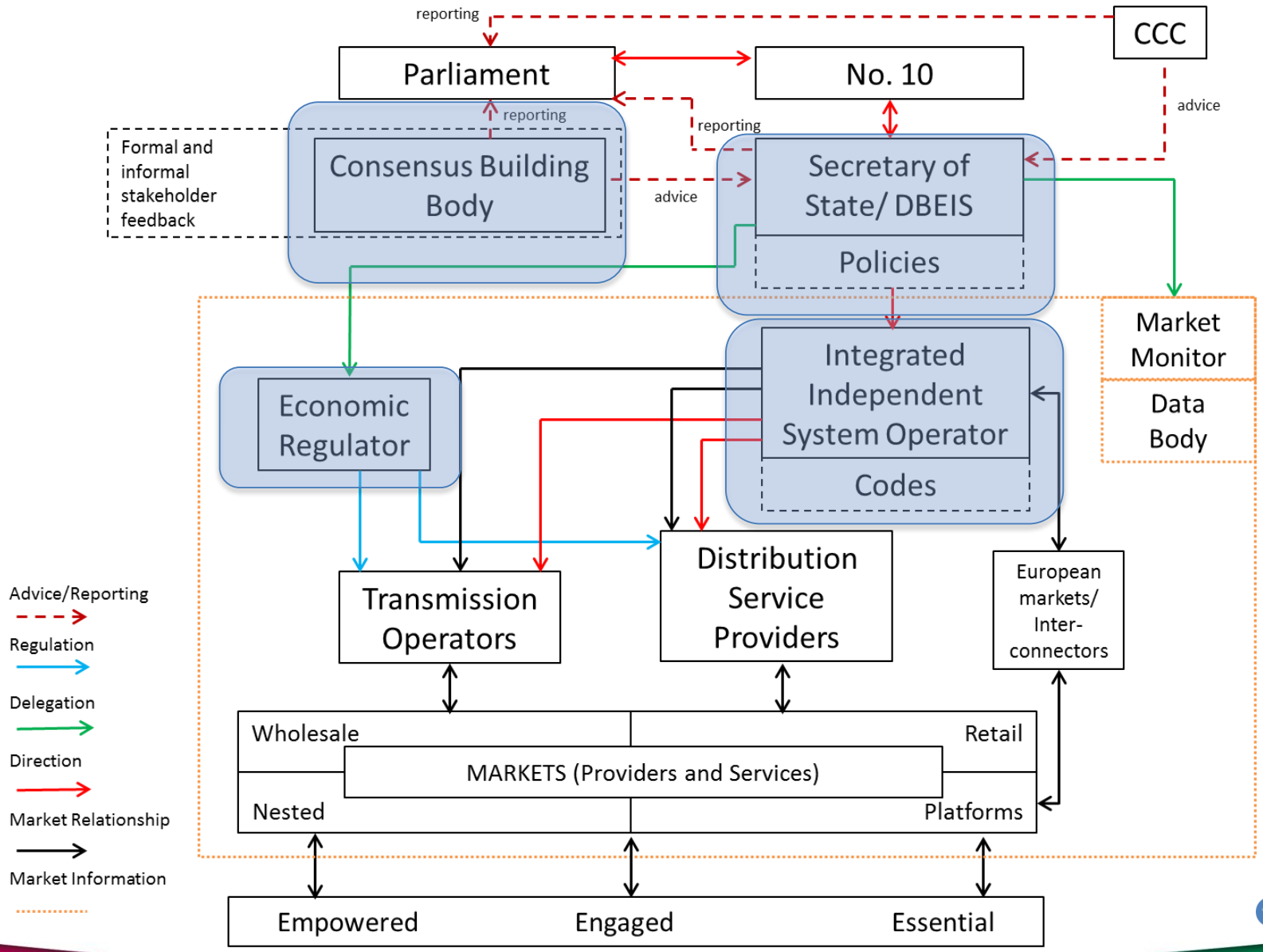

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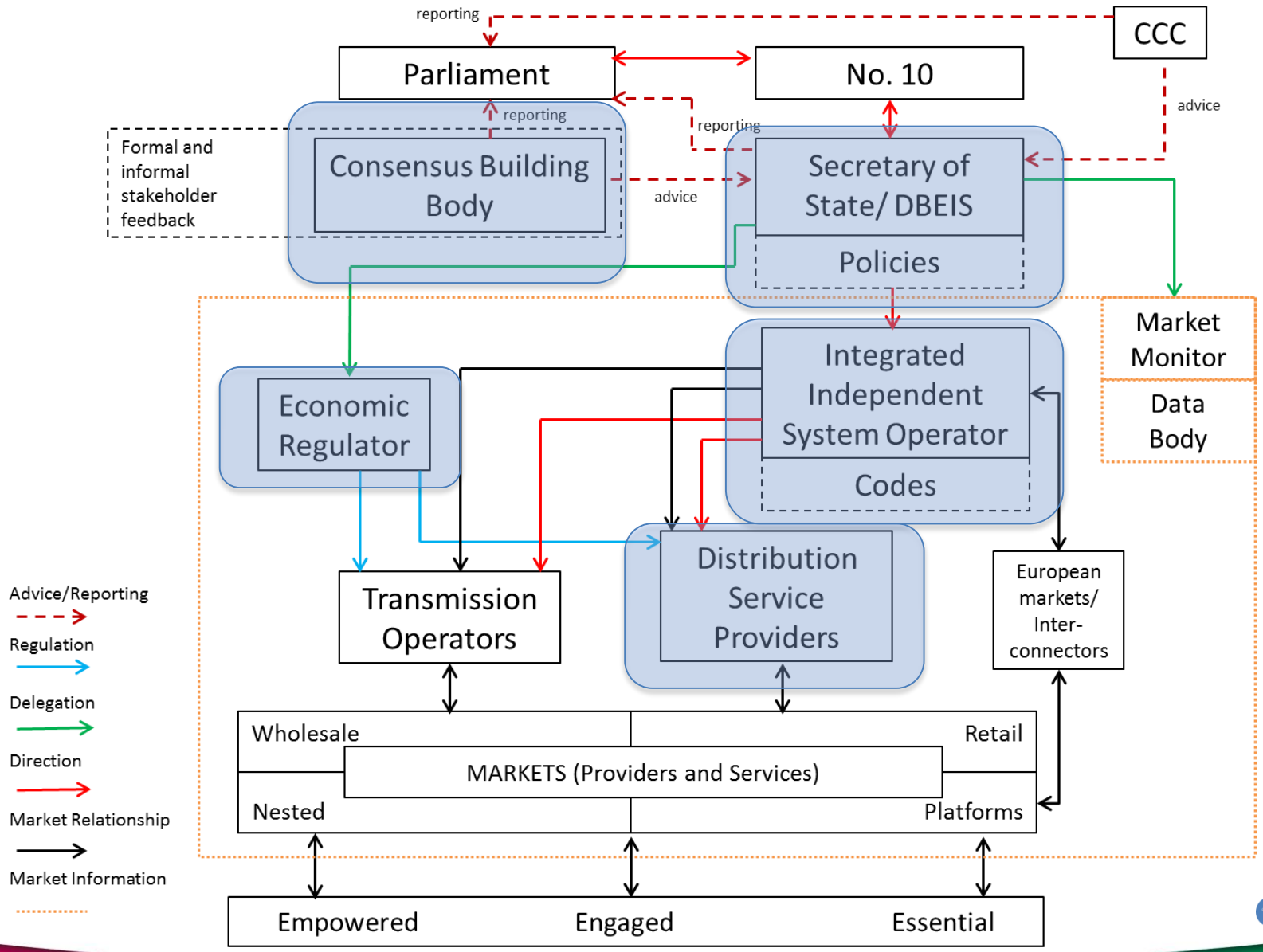

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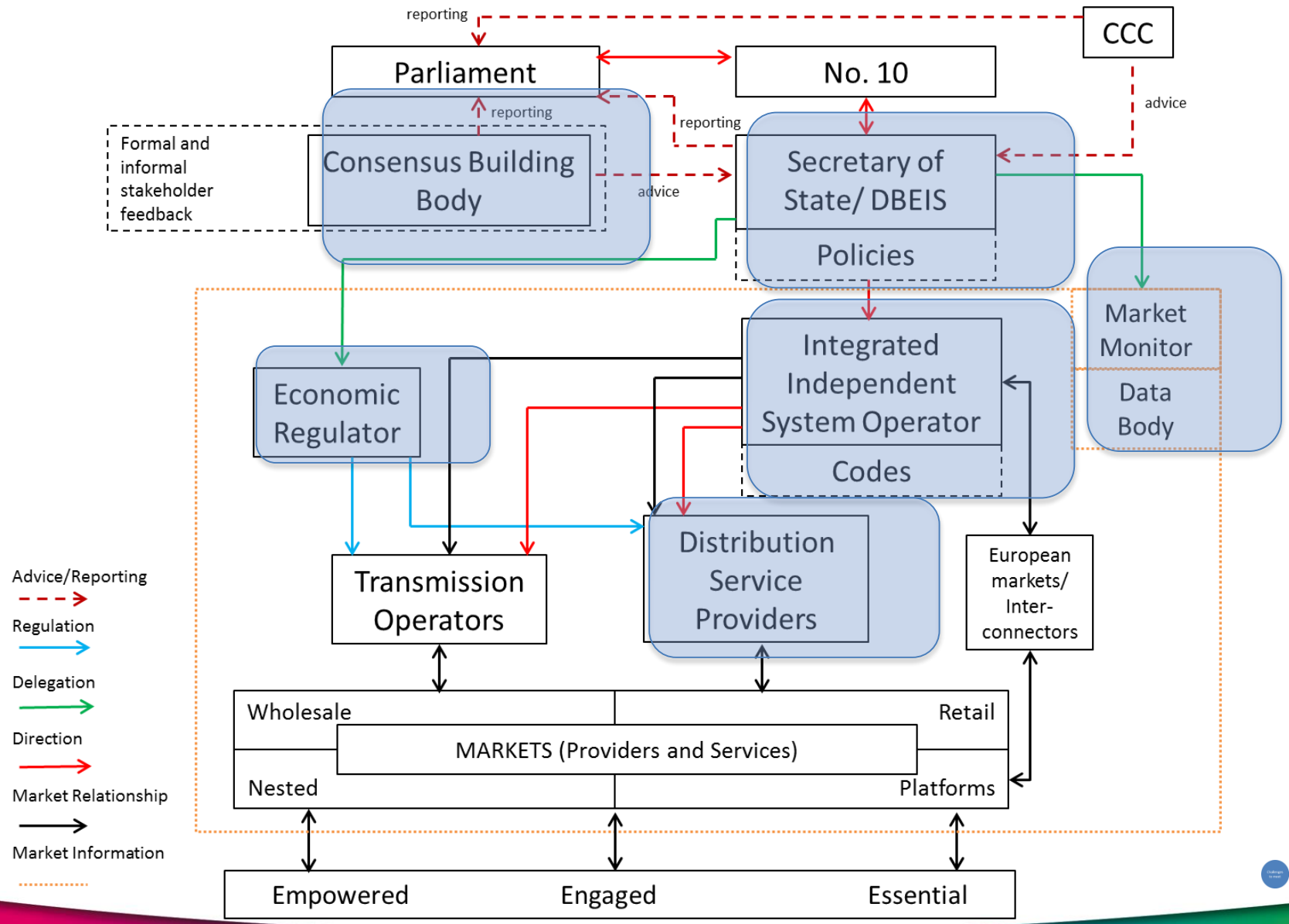

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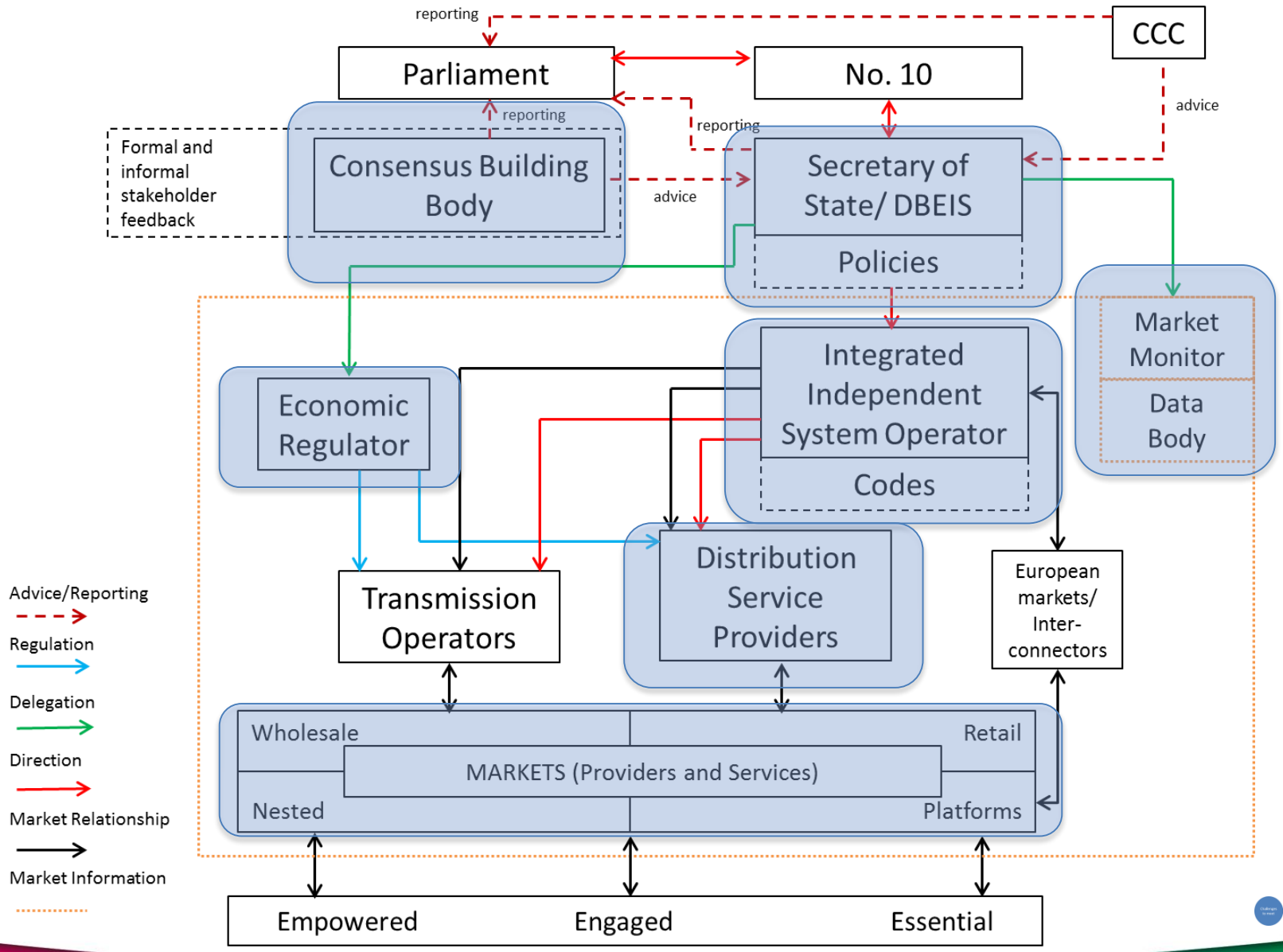

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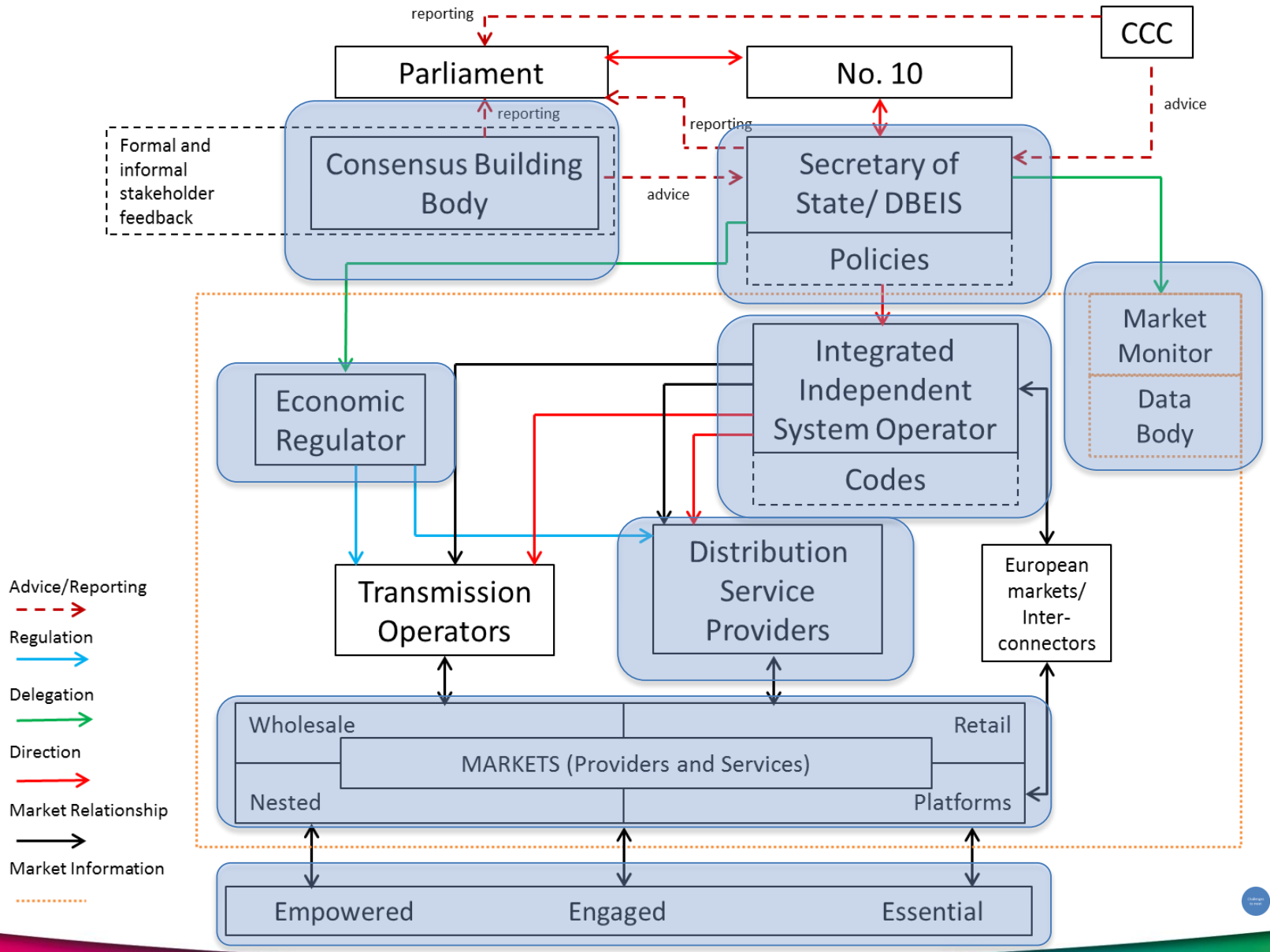

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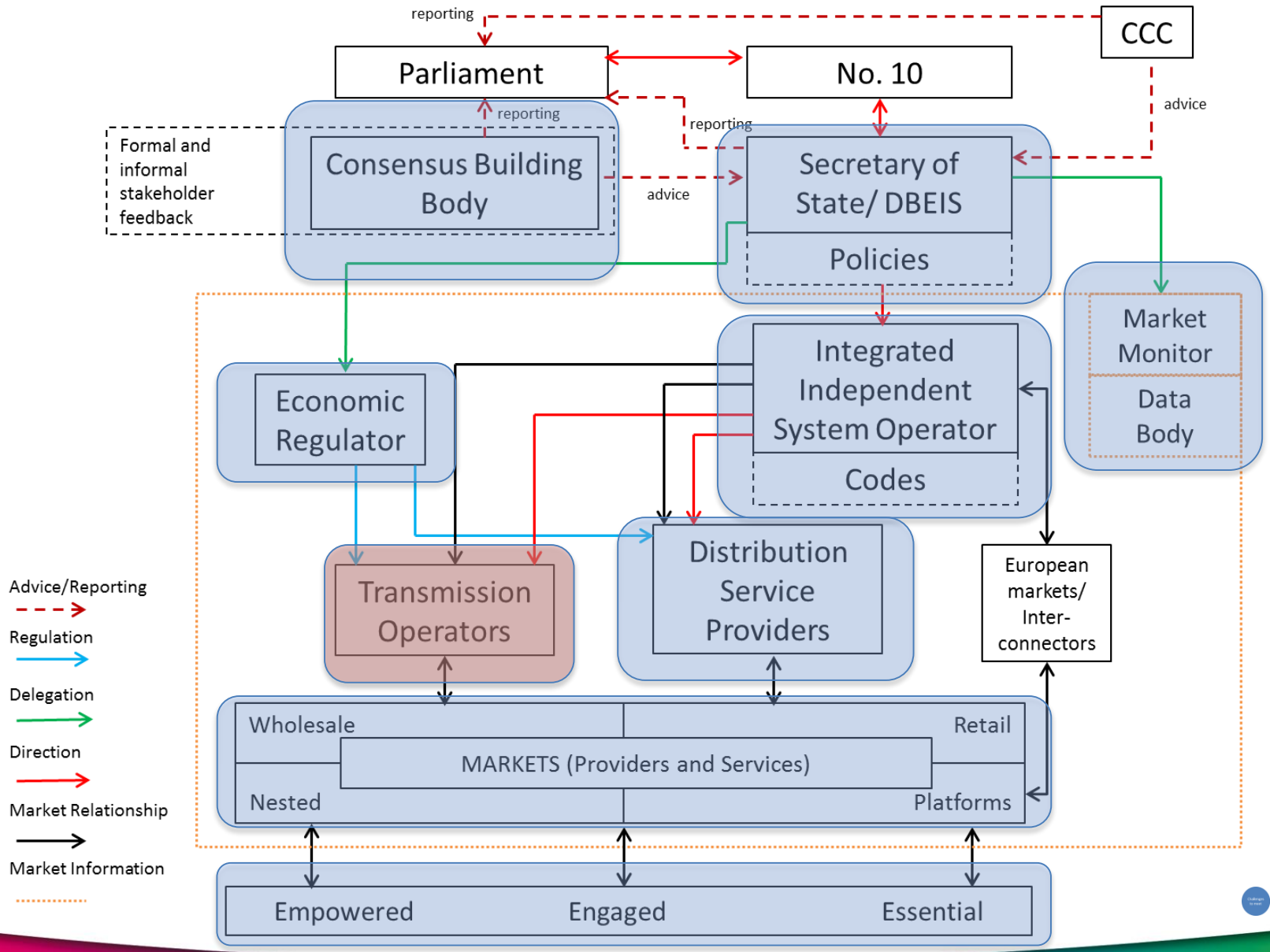

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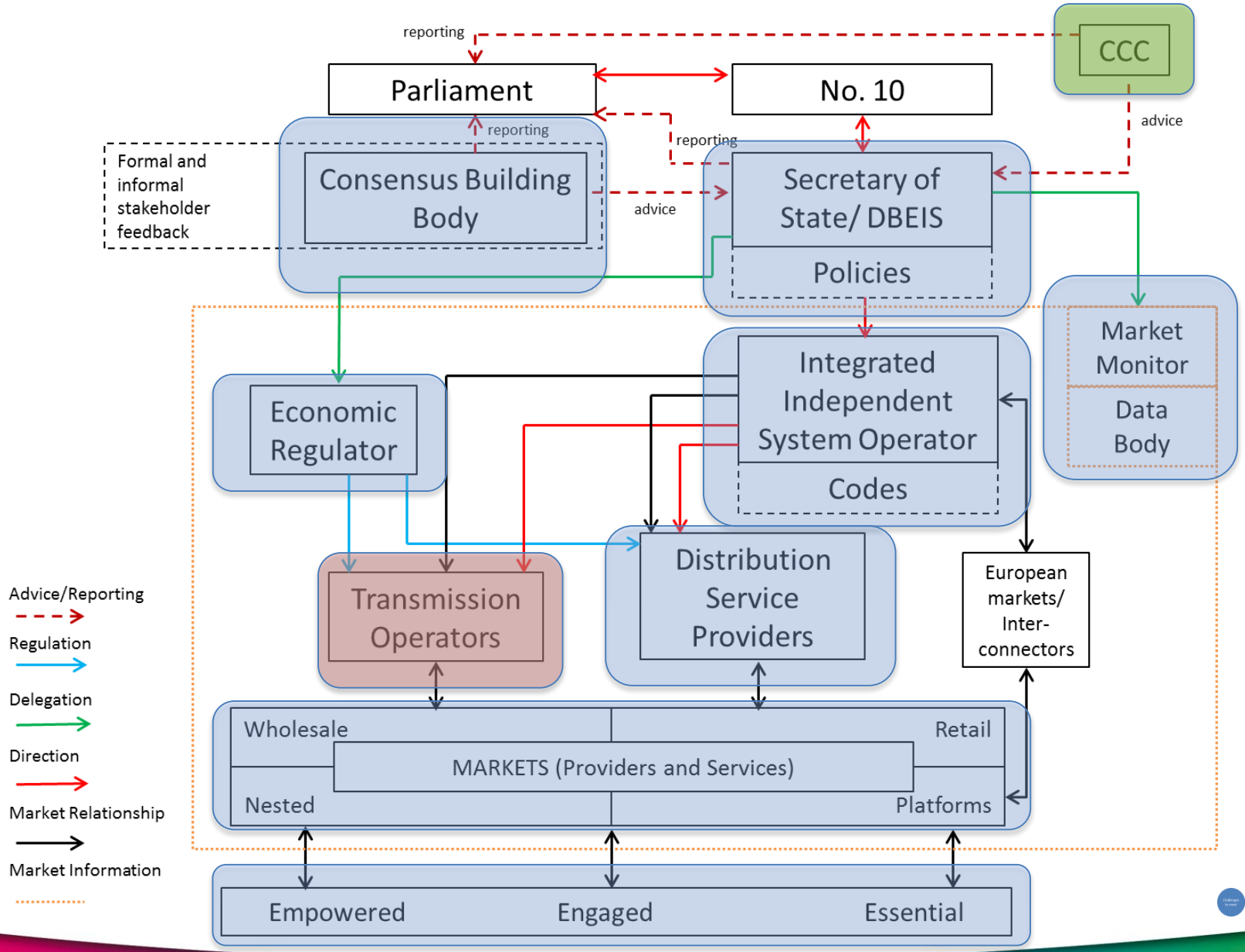

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Institutions in New Framework

The same	Changed	New
TO	IISO	Consensus Building Body (CBB) - New and separate or part of another body?
	Ofgem as Economic Regulator	Data Body (but could sit in many places not necessarily stand-alone)
	DNO to DSP	
	Code Bodies, part of IISO or separate	
	Market Monitor, separate or part of something	

Summary

Generic challenges to be met → Specific GB problems to solve → Principles of institutional reform → Institutional solutions & reform

- Have to respond to rapid change in technologies, economics and preferences
- Need integration across vectors
- Customer bills manageable & wishes met
- Have to fund change
- Altering value/payments to encourage a sustainable system
- Legitimate equitable, transparent
- Nimble governance to keep up with change
- New roles for system actors
- Building consensus across society

- Current institutions issues – Ofgem, BEIS, self-regulation, view of people in system
- System operation – data, uncoordinated change, SO role, integration across vectors, value in system
- Transparency & legitimacy – in policy making, political short-term risk
- Areas Lacking – CCC budgets into governance, coordinating value, consensus building

- Energy system centred on customers
- Facilitating local energy markets
- Open and transparent access to data
- Greater Coordination
- Long-term political stability
- Transparent and legitimate policy-making
- Plus, have to be able to fund it

- Greater coherence of decision-making & less delegation from BEIS
- A Consensus Building Body
- Introducing a Market Monitor/Data Body
- Creating and Integrated Independent System Operator
- Ofgem back to economic regulator
- DSPs
- Local markets
- People - focused

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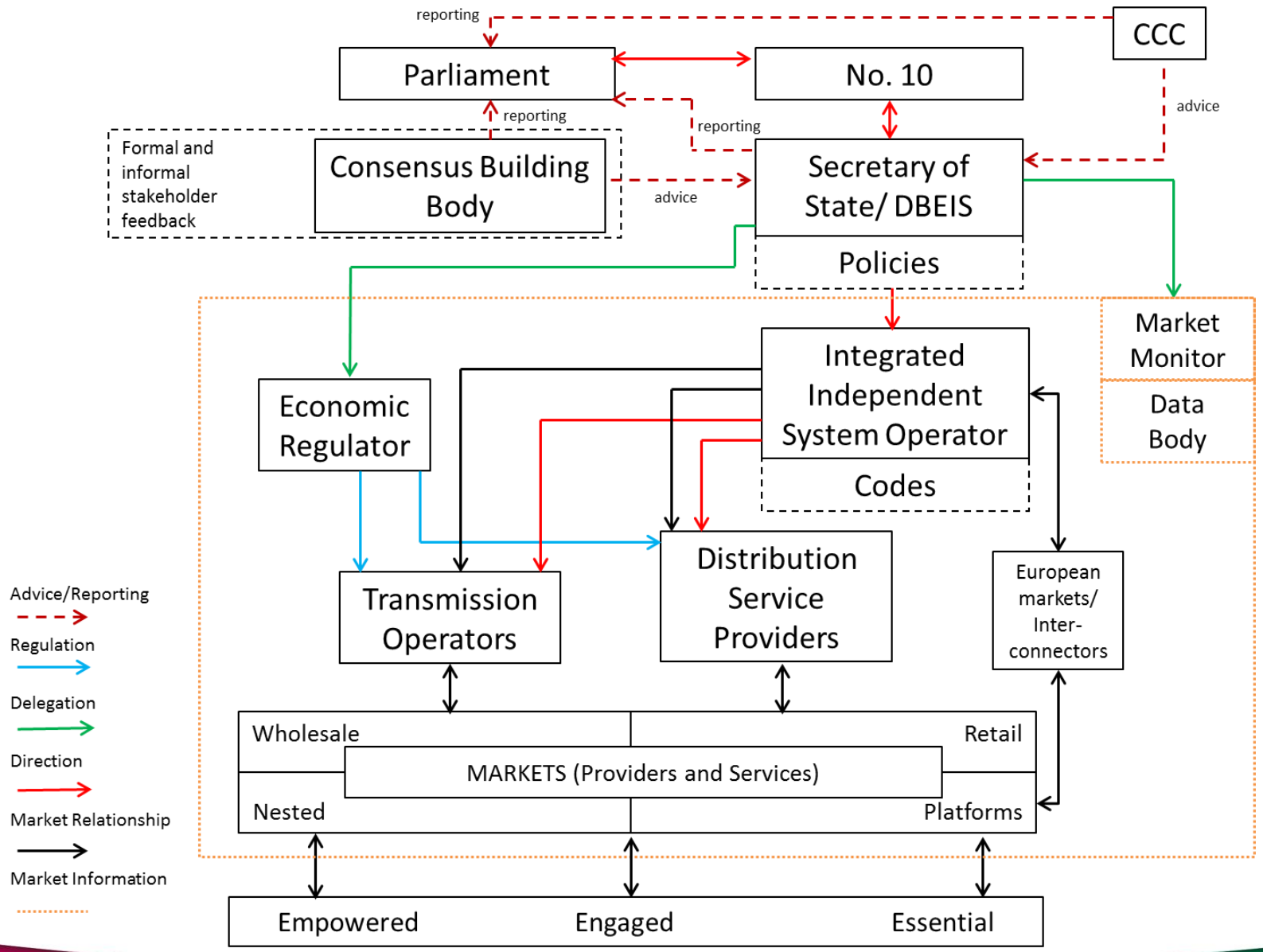

Thankyou

For more information, please go to the IGov website

http://projects.exeter.ac.uk/igov/